KoalaPainter™

Owner's Manual

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INTRODUCTION

KoalaPainter is an easy-to-use computer drawing tool which allows you to:

- Draw freehand on your computer display using several different colors and "brushes."
- Draw perfect geometric shapes of any size and color.
- Create designs on two different viewing screens, and copy images from one screen to the other.
- Magnify your drawings for easy close-up work.
- Save your drawings on diskette for future enjoyment.
- Create beautiful high-resolution graphics screens to use in your own programs.

SYSTEM REQUIREMENTS

Cartridge Version

- Commodore 64™ computer
- KoalaPainter program cartridge
- KoalaPad touch tablet and stylus
- Color television or monitor
- Commodore 1541 disk drive and blank diskettes (required only if you want to save your pictures)

Diskette Version

- Commodore 64 computer
- KoalaPainter program diskette
- KoalaPad touch tablet and stylus
- Commodore 1541 disk drive (and blank diskettes if you want to save your pictures)
- Color television or monitor

GETTING STARTED

Cartridge Version

- Make sure your computer is turned off.
- Insert the KoalaPainter cartridge into the Commodore 64's cartridge slot, with the label facing up.
- Connect your KoalaPad into Control Port 1 on the right side of your computer.
- Turn on your television or monitor.
- Turn on your computer.

You'll see the KoalaPainter title screen display on your television or monitor. You can wait for it to finish painting, and it will go to the menu automatically. Or you can press one of the KoalaPad buttons, and the menu will appear more quickly.

Diskette Version

- Make sure your computer is turned off.
- Turn on your disk drive and your television or monitor.
- Turn on your computer.
- Insert your KoalaPainter program diskette into your disk drive.
- Connect your KoalaPad into Control Port 1 on the right side of your computer.

When your computer indicates "READY.", type:

LOAD "KPAINT", 8

and press <RETURN>.

When your computer responds "READY." again, type:

RUN

and press <RETURN>.

KoalaPainter will now load. It takes about a minute for the title screen to appear.

When the menu appears you're ready to draw. The menu offers a variety of drawing and color options. However, to become familiar with how the KoalaPad works, let's begin with a few basics and do a little experimenting. The menu and its options will be described in more detail later in this manual.

HOW TO BEGIN

The menu is divided into three areas: commands, brushes, and the color palette. Choosing a command, brush, or color is easy: just move your finger or stylus on the KoalaPad until the cursor is in the right place on the screen, then press either KoalaPad button.

Whenever you choose a command, brush, or color, KoalaPainter will verify your choice. When you select a command, the name of the command flashes. When you select a brush, a small green square appears under the selected brush. When you select a color, the screen border changes to the selected color.

Once you've chosen a command, a brush, and a color, you are ready to move to the drawing screen to begin creating your design. Let's begin with the DRAW command.

Making Selections

- Position the cursor in the box marked DRAW.
- Keeping the cursor in this box, press either button on your KoalaPad.

Using this same procedure, select a color or pattern and a brush.

Switching Between Screens

In order to go to the drawing screen, move the tip of your stylus all the way down to the bottom of the KoalaPad's surface. The cursor will disappear below the color palette. If your television or monitor volume is turned up, you will hear a steady "beeping" when your stylus is in the right place.

Now press either KoalaPad button. The menu screen will be replaced by the drawing screen, and you are ready to begin drawing.

- Hold down either button and move your finger or stylus on the tablet. A line in your selected color and brush will be drawn on the screen.

- Release the button and your line will stop.
- To return to the menu, move your stylus to the bottom of the tablet surface and press either button. The menu will reappear. You are now ready to choose other commands, colors or brushes.

Practice going back and forth a few times until you get the hang of it. When you are drawing, all your designs will be drawn in the currently selected brush and color. Make your selections **before** going to the drawing screen.

Erasing the Entire Screen

- Move the cursor to the box marked ERASE and press either button. The ERASE command will blink.
- If you are sure that you want to erase your entire drawing screen, select ERASE again to confirm your selection.

THE KOALAPAINTER MENU

COMMANDS

BRUSH
INDICATOR

BRUSHES

ARROW
MARKER

COLOR
PALETTE

MENU BACKGROUND
COLOR
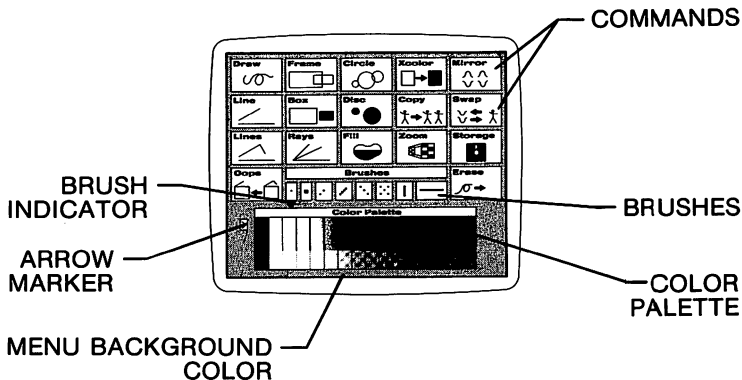
The Brush Set

A brush is any one of eight different markers which control the
width and shape of the lines drawn on the screen.
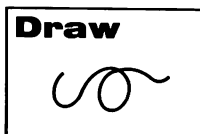
Brushes
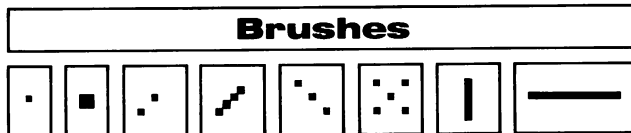
The Color Palette

The color palette is composed of sixteen solid colors and
sixteen patterns. Each pattern is composed of the currently
selected color and the solid color directly above it. There are
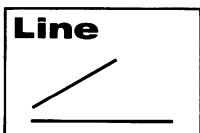120 possible pattern combinations.

Color Palette

SOLID
COLORS

PATTERNS
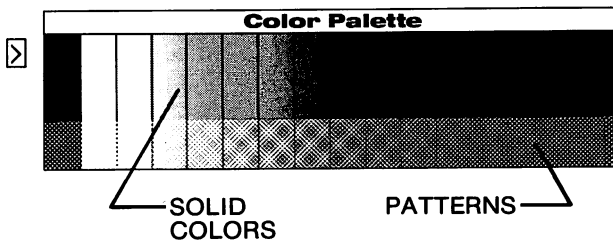
THE COMMANDS

Draw

DRAW — Freehand drawing.

- Move the cursor to the point where you want to begin drawing and hold down either button.
- With the button down, move your stylus on the KoalaPad just as if it were a pencil on paper.
- To stop drawing, release the button.

Line

LINE — Draws individual straight lines.

- Position the cursor where you want to start your line.
- Press either button and stretch the line from this point.
- Press either button when the line is the desired length. This sets the length of the line.
- If you want to transport the line to a new location, move your finger or stylus on the tablet's surface.
- When the line is in the new location, press either button and the line will be fixed in place.
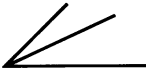
Lines

LINES — Draws lines that are connected end-to-end.

- Position the cursor where you want to start your first line.
- Press either button.
- Stretch the line into place by moving the stylus.
- Press either button. This fixes the end of the first line and starts the next line.
- Repeat for more lines.

Rays

RAYS — Makes lines that radiate from one point.

- Move the cursor to the starting point of the rays and press either button.
- Move the cursor to another point on the screen and press either button. A line will be drawn from the starting point to this point.
- Repeat this for each ray you want to draw, or hold down the button and move your stylus. A design will be drawn. Notice how you can vary the design by varying how fast you move the cursor.
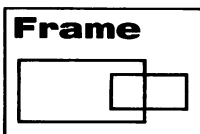
FRAME — Makes rectangular frames.

- Move the cursor to where you want to place a corner of the frame.

- Press either button to fix the corner in place.

- Move the cursor to where you want to place the opposite corner of the frame. The frame will stretch to this point.

- When the frame is the desired size, press either button.

- Move the frame to a new location, if desired, and press either button to fix it in place.
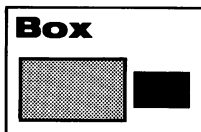
BOX — Creates a frame that automatically fills with the selected color or pattern.

- Follow the same procedure as in the FRAME command.

CIRCLE — Makes a circle.

- Move the cursor to where where you want to locate the outer edge of the circle.
- Press either button and move the cursor. A circle will develop from this point.
- Stretch the circle until it reaches the desired size, then press either button. This fixes the size of the circle.
- Transport the circle to another location if you want and press either button. This fixes the circle in place.

DISC — Creates a circle that automatically fills with the selected color or pattern.
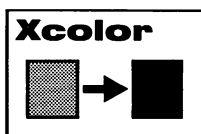
- Follow the same procedure as in the CIRCLE command.

```
┌─────────────────┐
│ Fill            │
│                 │
│   ⬤⬤⬤⬤⬤       │
│                 │
└─────────────────┘
```
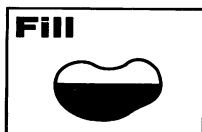
FILL — Fills in specified areas with selected color or pattern.

- First select a color or pattern from the color palette.
- Position the cursor inside the area to be filled.
- Press either button.

See the Hints and Explanations section for further information on the FILL command.

```
┌─────────────────┐
│ Xcolor          │
│                 │
│  ▒▒ ➡ ■         │
│                 │
└─────────────────┘
```

XCOLOR — "Exchange Color" — Replaces a color in your design with a different color.

- Select XCOLOR.
- Select a new color (not a pattern) from the color palette, then go to the drawing screen.
- Place the cursor on the color to be changed.
- Press either button. The old color will be changed to the new color everywhere on the screen, even inside a pattern.
- If you don't like the results, go back to the menu and select OOPS.

See the Hints and Explanations section for further information on the XCOLOR command.

```
Mirror
  ∩  ∩
  ∪  ∪
```

MIRROR — Creates mirrored images using the current
drawing command.

- Select a drawing command such as DRAW, LINE,
  CIRCLE etc.

- Select MIRROR. The screen will flash briefly, and the
  word "Mirror" will blink along with your chosen
  drawing mode.

- Go to the drawing screen and follow the instructions for
  the selected drawing mode. Exact copies of the current
  design will appear in the four corners of the screen.

- To cancel MIRROR, select MIRROR a second time.
  The word "Mirror" will stop blinking.

```
Copy
  大 ➡ 大 大
```
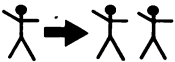
COPY — Copies a portion of a picture on your drawing screen
to another location.

- Move the cursor to one corner of the area you want to
  copy and press either button.

- Move the stylus and a frame will appear; stretch the
  frame until it encloses the entire area you want to copy,
  then press either button.

- Move the frame to another location on the screen and
  press either button.

13
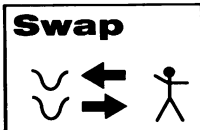
Swap

SWAP — Allows movement between two separate drawing
screens.

- Select SWAP. Your drawing screen will appear. Let's
  call this "screen A."

- Press either button. Another drawing screen will
  appear; we'll call this "screen B."

- Each time you press a button, you'll swap between the
  two screens.

- When the screen you want to use is displayed, go back
  to the menu to make other selections and continue
  with that screen.

You can create designs on screen A and copy them to screen
B — or vice versa — by using the SWAP and COPY
commands together. See the Hints and Explanations section
for information on how to do this.
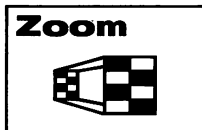
Zoom

ZOOM — Magnifies designs for close-up detail work.

- After selecting ZOOM, the drawing screen will appear. There will be a frame entitled ZOOM on the screen.

- Move this frame so that it encloses the area you want to "zoom in on," and press either button.

- On the top one-third of the screen, you will see your design in its actual size. On the bottom, you will see your design enlarged.

- You can move the cursor around in either the top or bottom area. In the top area, moving the cursor and pressing a button repositions the zoom frame. In the bottom area, you can draw on your enlarged design. At the far bottom of the screen, you can select new colors to draw with.

- It's easier to edit your work if you use the smallest brush.
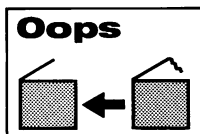
Oops

OOPS — Lets you change your mind by cancelling your most recent drawing command.

- Select OOPS. The screen will flash to acknowledge the command.

- When you return to the drawing screen, you'll find your design just as it was before the last command you used.

OOPS can only be used to undo the most **recent** command.
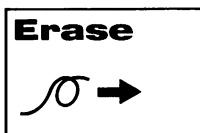
Erase

ERASE — Erases everything on the drawing screen.

- Select ERASE. The word "Erase" will begin blinking.

- If you are sure you want to erase your entire drawing screen, select ERASE again. The screen will flash to acknowledge the command, and the word "Erase" will stop blinking.

- If you change your mind about erasing the screen before selecting ERASE the second time, select another command.

- If you accidentally erase your screen, you can restore it if you select OOPS.

Storage

STORAGE — Allows pictures to be stored and retrieved on diskette.

First insert the diskette you want to use into your disk drive, then select Storage.

You will see a menu appear, consisting of sixteen "slots" with picture names in them. Some of the slots may contain the word "empty" if no picture has been stored in them.

Initializing a Disk

If you are using a new, unused diskette, you must first initialize it with the "Init Disk" command on the Storage menu. Move the cursor into the box containing the words "Init Disk" and press either button. KoalaPainter will then ask you "Erase Disk? Type 'Y' for Yes." Initializing a diskette erases everything already on the diskette. If you press "Y" on the keyboard, KoalaPainter will then ask you to give the diskette a name. Type the name of the diskette in on the keyboard. You may type up to twelve letters, numbers, and spaces in a name. When you hit the <RETURN> key, the disk will be initialized. Once a diskette has been initialized, you can proceed to use the other Storage commands.

Retrieving Stored Pictures

To get a picture from the diskette onto your screen, select the "Get" command by moving the cursor into the box marked "Get" and pressing either button. Then move the cursor to the slot containing the picture name and press a button. The status line at the bottom of the menu will say "Getting Picture" while KoalaPainter loads your picture from the diskette. When the "Getting Picture" message goes away, you can return to the main menu by moving the stylus to the bottom of the KoalaPad surface and pressing either button.

Saving Pictures

To save one of your own pictures on your diskette, first make sure it is the current drawing screen (use the Swap command if necessary.) Then select the "Name & Save" command on the Storage menu. Move the cursor to an "empty" slot to add a picture to the diskette, or to a named slot to replace an existing picture. Then press either button. Now type in a name for your picture, up to 8 letters, numbers, and spaces. When you hit the <RETURN> key, KoalaPainter will save your picture to the diskette.

To save one of your pictures without changing its name, select the "Save" command on the Storage menu. Then select one of the already named slots in the menu by pointing at it with the cursor and pressing a button.

If you have the diskette version of KoalaPainter, you shouldn't try to use your KoalaPainter program diskette to store your own pictures — use one of your own diskettes instead. The KoalaPainter diskette can not be written on, but it does contain some sample pictures you can use.

Changing Disks

If you want to switch to a different diskette, first insert the new diskette into your disk drive and then select the "Change Disk" command. The menu will change to show you which pictures have been stored on the diskette.

HINTS AND EXPLANATIONS

KoalaPad Buttons

Both KoalaPad buttons act the same in KoalaPainter; you can press whichever one is most comfortable for you.

Error Messages

Various error messages may appear in the bottom status line of the Storage menu if something goes wrong. These error messages come from the disk drive itself — you should consult your disk drive manual to see what the problem is.

Transport Feature

The commands which draw geometric shapes (LINE, CIRCLE, DISC, FRAME, and BOX) all allow you to first set the size of the object by "stretching" and then to set the position of the object. This is called the Transport Feature, and operates the same way for all of these commands.

Copying Between Screens

- Use the SWAP command first. Swap between the screens until the picture you want to copy from is on the screen.

- Go back to the main menu and select the COPY command. Frame the area you want to copy by pressing once on the first corner of the frame, then again on the opposite corner.

- When you press the second time, the screen will switch to the other picture. Move the frame to where you want it and press a button. You may place more than one copy by moving the frame and pressing a button in each place you want the copy.

- When you move your stylus to the bottom of the KoalaPad and press a button, you will be switched back to the first screen, and you can copy another area.

- You can repeat this process as many times as you like. When finished copying, just go back to the main menu.

Fill

- The FILL command cannot be used to fill over a pattern. It can only be used to fill over a solid color.

- When filling an area you have drawn freehand, be very careful that the border of the area has no "holes" — not even little tiny ones. If it does, the fill color will "leak out" of the area and take over your screen! (You can fix this by pressing a button while the screen is filling. This stops the fill. Then go to the main menu and select Oops.)

- If you have drawn a symmetrical pattern with MIRROR on, you can also Fill it symmetrically by leaving MIRROR on while you do the Fill.

XColor

- When you start out, the background color for every picture is white. You can change the background color by first selecting the new color, then selecting XCOLOR and replacing the background white with the new color.

- If you change the background color of a picture and then Erase it, the screen will be that color instead of white.

Erasing Small Areas

- To erase only part of your picture (in case you made a small mistake), select the background color from the color palette. Then select a brush to use as an "eraser" and select the DRAW command. Return to the picture and draw over the area you want to erase.

- To erase a large area of your picture, use the BOX command instead of DRAW; put a background color box over the area you want to erase.

TECHNICAL NOTES

Color Collisions

Occasionally, you may notice peculiar color responses —
colors "changing out from under you" — when you attempt to
use several different colors in a small area of the screen.
Although you have many different colors to choose from, the
Commodore 64 hardware only allows you to have four
separate colors (including the background color) in each 4 by
8 dot area of the screen. So if you try to add a fifth color, one of
the first four has to change. This is called "color collision" and
can be avoided by not using too many colors in a small area.

Printing Your Pictures

You cannot print your KoalaPainter pictures directly from
KoalaPainter. Koala Technologies now offers a separate
product, KoalaPrinter for the Commodore 64, which allows
you to print your pictures.

Photographing Your Pictures

- Use Kodachrome 64 daylight film for slides or
  Kodacolor VR100 for photographs.

- Position your camera using a tripod.

- Take pictures in a darkened room or arrange a hood
  over the screen to shelter it from light reflections.

- Set your camera's shutter speed for one second; use a
  light meter to determine the aperture.

Disk Drives

We recommend you use the Commodore 1541 disk drive with
KoalaPainter. Other disk drives may or may not work correctly.
Many higher-speed drives which use parallel (IEEE) interfaces
may not be able to load and run KoalaPainter.

Displaying Pictures from BASIC

The following is a BASIC program (with a machine language subroutine for speed) which lets you display your KoalaPainter pictures without loading and running KoalaPainter itself. Type in this program carefully and save it to disk. (If you make a mistake typing any of the DATA statements, the program will halt with an error message. Re-check your typing.)

```
1       REM  DISPLAY  A  KOALAPAINTER  [TM]  SCREEN
10      IF  A = 1  GOTO  130
20      FOR  A = 49154  TO  49320
30      READ  I: T = T + I: POKE  A, I
40      NEXT
50      IF  T = 22747  GOTO  70
60      PRINT  "ERROR  IN  DATA  STATEMENTS!": STOP
70      INPUT  "WHICH  PICTURE"; A$
80      IF  RIGHT$ (A$, 1) = "*"  GOTO  100
90      A$ = A$ + "              ": REM  14  SPACES
100     F$ = CHR$ (129) + LEFT$ (A$, 14)
110     FC = PEEK (53281): CC = PEEK (646)
120     PRINT  "LOADING. . ."; : A = 1: LOAD  F$, 8, 1
130     SYS  49154
140     WAIT  653, 1: WAIT  653, 1, 1
150     POKE  53265, PEEK (53265)  AND  223
160     POKE  53272, (PEEK (53272)  AND  240)  OR  4
170     POKE  53270, PEEK (53270)  AND  239
180     POKE  53281, FC: POKE  646, CC
190     PRINT  CHR$ (147) ;
200     END
49154   DATA  173, 17, 208, 41, 239, 9, 32, 141
49162   DATA  17, 208, 173, 22, 208, 41, 223, 9
49170   DATA  16, 141, 22, 208, 173, 24, 208, 41
49178   DATA  240, 9, 8, 141, 24, 208, 76, 43
49186   DATA  192, 173, 17, 208, 41, 239, 141, 17
49194   DATA  208, 162, 127, 160, 64, 134, 252, 132
49202   DATA  251, 162, 4, 160, 0, 134, 254, 132
49210   DATA  253, 162, 131, 160, 39, 32, 127, 192
```

```
49218  DATA  162, 131, 160, 40, 134, 252, 132, 251
49226  DATA  162, 216, 160, 0, 134, 254, 132, 253
49234  DATA  162, 135, 160, 15, 32, 127, 192, 173
49242  DATA  16, 135, 141, 33, 208, 162, 96, 160
49250  DATA  0, 134, 252, 132, 251, 162, 32, 160
49258  DATA  0, 134, 254, 132, 253, 162, 127, 160
49266  DATA  63, 32, 127, 192, 173, 17, 208, 9
49274  DATA  16, 141, 17, 208, 96, 142, 1, 192
49282  DATA  140, 0, 192, 160, 0, 177, 251, 145
49290  DATA  253, 165, 252, 205, 1, 192, 208, 8
49298  DATA  165, 251, 205, 0, 192, 208, 1, 96
49306  DATA  230, 251, 208, 2, 230, 252, 230, 253
49314  DATA  208, 227, 230, 254, 76, 135, 192
```

To display a picture, follow these steps:

- Insert the diskette containing the above display program. LOAD the program.

- If the picture is on a different diskette, remove the first diskette and insert the one with the picture.

- RUN the program.

- The program will prompt you with WHICH PICTURE?. Type in the name of the picture as you see it in KoalaPainter's Storage menu, for example PIC I DRAGON, and hit < RETURN >. Your program will be loaded and displayed. (This takes about 30 seconds on a Commodore 1541 drive.)

- The picture will remain on the screen until you press and release either < SHIFT > key.

Using KoalaPainter Pictures in Your Own Programs

You can use KoalaPainter pictures in your own programs. For example, if you wanted to load a KoalaPainter picture as a title page while the rest of your program was loading or setting up, you could replace line 140 of the display program with a LOAD or GOTO to execute your own code. You just have to make sure to set the screen mode back to normal if necessary. (This is what lines 150 – 180 do.)

Slide Show

You can also convert the BASIC display program into a slide show. When you RUN it, it will loop through all the pictures on a diskette, displaying them one at a time. After displaying the last picture on the disk, the slide show returns to the first picture and starts over.

To convert the display program into the slide show program, simply replace lines 1 – 200 with the following.

```
1    REM KOALAPAINTER [TM] SCREEN SLIDE SHOW
10   IF A = 1 GOTO 150
20   OPEN 15, 8, 15, "I"
30   FOR A = 49154 TO 49320
40   READ I: T = T + I: POKE A, I: NEXT
50   IF T = 22747 GOTO 70
60   PRINT "ERROR IN DATA STATEMENTS!": STOP
70   L = ASC ("A") : REM START WITH PIC A
80   F$ = CHR$ (129) + "PIC " + CHR$ (L) + "*"
90   OPEN 2, 8, 2, "0:" + F$ + ", P, R"
100  INPUT#15, E, M$, T, B: CLOSE 2
110  IF E = 0 GOTO 140
120  IF L = ASC ("A") THEN PRINT "NO PICTURES ON
     DISK.": END
130  GOTO 70
140  A = FRE (0) : A = 1: LOAD F$, 8, 1
150  IF F THEN SYS 49187: GOTO 170
160  F = 1: SYS 49154
170  L = L + 1: GOTO 80
```

Lines 49154 – 49314 are unchanged.

Picture Format

The KoalaPainter picture format is described below. The addresses shown are those which the picture occupies after being loaded into memory (e.g., with a BASIC "LOAD file,8,1" command).

24576 – 32575   Multicolor bitmap (8000 bytes)
$6000 – $7F3F

32576 – 33575   Color memory 1 (1000 bytes)
$7F40 – $8327

33576 – 34575   Color memory 2 (1000 bytes)
$8328 – $870F

34576   Background color (1 byte)
$8710

DISKETTE EXCHANGE FORM
(please print clearly)

If you want to replace a damaged Koala software diskette, send the diskette back to Koala with a check or money order for eight dollars ($8.00) and we'll send you a replacement diskette.

NOTE: ONLY ORIGINAL KOALA SOFTWARE DISKETTES SOLD WITH A KOALA PRODUCT MAY BE EXCHANGED UNDER THIS POLICY.

Return this form with your damaged diskette and check for $8.00 to

KOALA TECHNOLOGIES CORPORATION
Dept. D
3100 Patrick Henry Drive
Santa Clara, CA 95052-8100

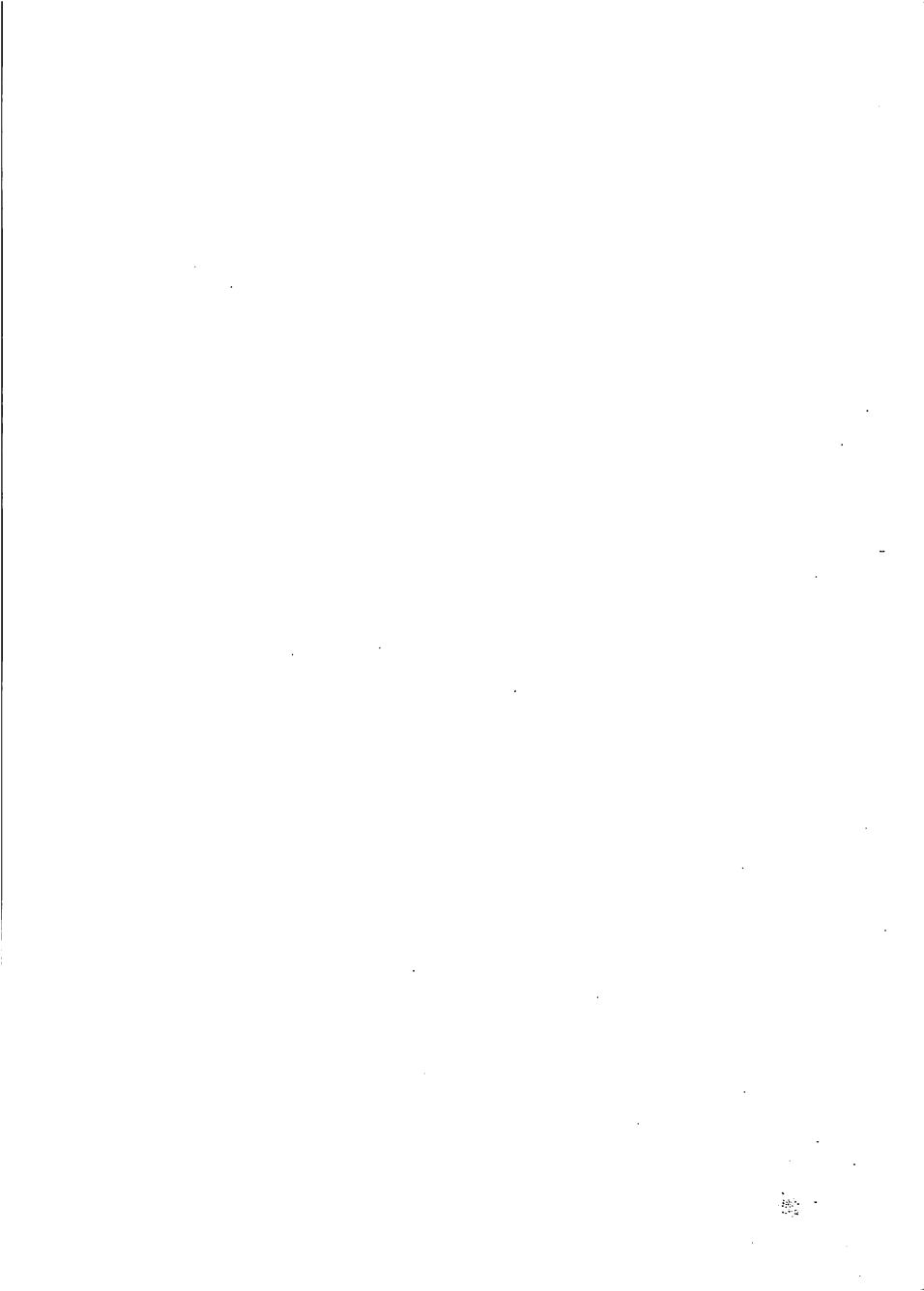**(please print clearly)**

Name of Program _____

Computer Model _____

Reason for Exchange _____

_____

_____

Name _____

Address _____

City _____ State _____ Zip _____

Telephone (_____) _____